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Patent  
 Orrick Docket No. 703538.4039

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)	Group Art Unit: 2821
	)	
Norman Rostoker et al.	)	Examiner: Trinh Vo Dinh
	)	
Serial No.: 10/799530	)	
	)	
Filed: March 11, 2004	)	
	)	
For: FORMATION OF A FIELD REVERSED	)	
CONFIGURATION FOR MAGNETIC AND	)	
ELECTROSTATIC CONFINEMENT OF PLASMA	)	

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22312-1450

Sir:

In accordance with 37 CFR §§ 1.97 and 1.98, the Items identified in this Information Disclosure Statement ("IDS") are brought to the attention of the Office. The items are listed on the attached form PTO-1449. Pursuant to 37 CFR 1.98(d), copies of the cited patents and references (Items AA-AQ, AX-CL) were provided to the Examiner in Application Serial No. 10/066424, now U.S. Patent No. 6,864,740. Additional cited patents (Items AR-AW) are also brought to the attention of the Examiner and are listed on the attached PTO Form 1449. These patents were cited in co-pending Application Serial Nos. 10/328,701 and 10/328,703.

**CERTIFICATE OF FACSIMILE TRANSMISSION**

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being transmitted to the United States Postal Service on the date shown below to the Commissioner for Patents, MAIL STOP ISSUE FEE, P.O. Box 1450, Alexandria, VA 22313-1450.

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Mary L. Smith

May 6, 2005  
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Patent  
Orick Docket No. 703538.4039

**INFORMATION DISCLOSURE STATEMENT FILING PROVISION:**

☐ This IDS is believed to be timely in that it is being submitted under 37 CFR § 1.97(b), that is (1) within three months of the filing date of the application, which is not a continued prosecution application filed under § 1.53(d); or (2) within three months of entry of the national stage as set forth in 37 CFR § 1.491; or (3) before the mailing of a first Office action on the merits; or (4) before the mailing of a first Office action after filing a request for continued examination under § 1.114. Thus, no fee is required.

☐ However, if the undersigned is in error in this regard, Applicant respectfully requests that the Office consider this IDS as filed under 37 CFR § 1.97(c), if applicable, and charge the fee due under 37 CFR § 1.17(p) to the deposit account referenced below.

☐ However, if the undersigned is in error in this regard, Applicant respectfully requests that the Office consider this IDS as filed under 37 CFR § 1.97(c), if applicable, and a statement under 37 CFR § 1.97(e) is included below, thus no fee is required.

☐ This IDS is being submitted under 37 CFR § 1.97(c), that is after mailing of a first Office action on the merits, but before a Final Action under 37 CFR § 1.113 or a Notice of Allowance under 37 CFR § 1.311.

☐ The fee due under 37 CFR § 1.17(p) is submitted herewith.

☐ A statement under 37 CFR § 1.97(e) is included below, thus no fee is required.

In the event that this IDS is not received before a Final Action or a Notice of Allowance, then Applicant respectfully requests that the Office consider the filing of these papers to be submitted under 37 CFR § 1.97(d) and charge the fee due under 37 CFR § 1.17(p) to the deposit account below.

Patent  
Orrick Docket No. 703538.4039

☒ This IDS is being submitted under 37 CFR § 1.97(d), that is after a Final Action under 37 CFR § 1.113 or a Notice of Allowance under 37 CFR § 1.311, but before payment of the issue fee. A statement under 37 CFR § 1.97(e) is included below. The fee due under 37 CFR § 1.17(p) is submitted herewith.

**STATEMENT UNDER 37 CFR § 1.97(e):**

☐ Each item contained in this IDS was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS.

☒ No item contained in this IDS was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing this statement after making reasonable inquiry, no item of information contained in this IDS was known to any individual designated in 37 CFR § 1.56(c) more than three months prior to the filing of this IDS.

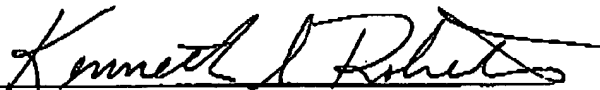
**PAYMENT AND/OR AUTHORIZATION TO CHARGE FEES:**

- ☐ A check in the amount of \_\_\_\_\_ is enclosed for the above fee(s).
- ☒ Please charge \$180.00 to Deposit Account No. 15-0665 for the above fee(s).
- ☐ The Commissioner is authorized to charge any fees required by the filing of these papers, and to credit any overpayment to Orrick, Herrington & Sutcliffe's Deposit Account No. 15-0665.

Respectfully submitted,

Orrick, Herrington & Sutcliffe LLP

Dated: May 6, 2005

By:   
Kenneth S. Roberts  
Reg. No. 38,283

Orrick, Herrington & Sutcliffe LLP  
4 Park Plaza, Suite 1600  
Irvine, CA 92614  
Tel: (949) 567-6700  
DOCSOC1:161763.1

Sheet 1 of 3

<b>Form PTO-1449</b>  <b>LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	<b>Atty. Docket No.</b> 703538.4039	<b>Serial No.</b> 10/799530
	<b>Applicant:</b> Rostoker et al.	
	<b>Filing Date:</b> March 11, 2004	<b>Group:</b> 2821

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
	AA	4,347,621	8/31/1982	Dow	376	139	
	AB	4,314,879	2/9/1982	Hartman et al.	376	128	
	AC	4,274,919	6/23/1981	Jensen et al.	176	3	
	AD	4,267,488	5/12/1981	Wells	315	111.7	
	AE	4,202,725	5/13/1980	Jarnagin	176	5	
	AF	4,434,130	2/28/1984	Salisbury	376	107	
	AG	4,650,631	3/17/1987	Knorr	376	127	
	AH	4,618,470	10/21/1986	Salisbury	376	123	
	AI	4,601,871	7/22/1986	Turner	376	144	
	AJ	4,560,528	12/24/1985	Ohkawa	376	121	
	AK	4,543,231	9/24/1985	Ohkawa	376	133	
	AL	4,853,173	8/1/1989	Stenbacka	376	123	
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	AN	5,160,695	11/3/1992	Bussard	376	107	
	AO	5,160,694	11/2/1992	Steudtner	376	107	
	AP	5,041,760	8/20/1991	Koloc	315	111.41	
	AQ	5,923,716	7/13/1999	Meacham	376	121	
	AR	4,904,441	2/1990	Sorensen et al.			
	AS	10/983,012	11/2004	Monkhorst et al.			
	AT	4,630,939	12/1986	M. Dale Mayes			
	AU	4,584,160	4/1986	Kageyama			
	AV	4,615,755	10/1986	Tracy et al.			
	AW	6,396,213	5/2002	Koloc			
<b>EXAMINER:</b>				<b>DATE CONSIDERED:</b>			

EXAMINER: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include a copy of this form with next communication to applicant.

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				<b>Filing Date:</b> March 11, 2004		<b>Group:</b> 2821	
(Use several sheets if necessary)							
<b>FOREIGN PATENT DOCUMENTS</b>							
Examiner Initial		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB CLASS	Translation Yes    No
	AX	WO 97/10605	3/20/1997	PCT			
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)</b>							
	AY	Tusczewski, M., "Field Reversed Configurations," Nuclear Fusion, Vol. 28, No. 11, pp. 2033-2092 (1988).					
	AZ	Tusczewski, M., "Status of the Field-Reversed Configuration as an Alternate Confinement Concept, Fusion Technology, Vol. 15, (Mar. 1989).					
	BA	Rider, Todd H., "Fundamental limitations on plasma fusion systems not in thermodynamic equilibrium," Phys. Plasmas 4 (4), pp. 1039-1046, April 1997.					
	BB	Avanzini et al., "Feasibility of Fusion Power Generation by Accelerated Ion Beams," ICENES, pp. 305-309, June 30-July 4, 1986.					
	BC	Dawson, John M., "Advanced Rules for CTR," Four Workshops in Alternate Concepts in Controlled Fusion, EPRI ER-429-SR Special Report, Part B: Extended Summaries, pp. 143-147, May 1977.					
	BD	Dawson, John M., "Alternate Concepts in Controlled Fusion," EPRI ER-429-SR Special Report, Part C: CTR Using the p- <sup>11</sup> B Reaction, pp. iii-30, May 1977.					
	BE	"Letters," ISSN 0036-8075, Science, Vol. 278, pp. 2024, 2032-2034, No. 5346, Dec. 19, 1997.					
	BF	Finn et al., "Field-Reversed Configurations with a Component of Energetic Particles," Nuclear Fusion, Vol. 22, pp. 1443-1458, No. 11, (1982).					
	BG	Tandem Energy Corporation Presentation, Dec. 12, 1997.					
	BH	Post, Richard F., "Nuclear Fusion," McGraw-Hill Encyclopedia of Science & Technology, 6 <sup>th</sup> Ed., pp. 142-153, 12 NIO-OZO.					
	BI	Rider, Todd H., "A general critique of inertial-electrostatic confinement fusion systems," Phys. Plasmas, Vol. 2, No. 6, Pt. 1, pp. 1853-1870, Jun. 1995.					
	BJ	Dobrott, D., "Alternate Fuels in Fusion Reactors," Nuclear Technology/Fusion, pp. 339-347, Vol. 4, Sept. 1983.					
	BK	Miley et al., "A Possible Route to Small, Flexible Fusion Units," Energy, Vol. 4, pp. 163-170, Special Issue: 1978 Midwest Energy Conference.					
	BL	Heldbrink et al., "The diffusion of fast ions in Ohmic TFTR discharges," Phys. Fluids B, Vol. 3, No. 11, pp. 3167-3170, Nov. 1991.					
	BM	Heldbrink et al., "comparison of Experimental and Theoretical Fast Ion Slowing-Down Times in DIII-D," Nuclear Fusion, vol. 28, No. 10, pp. 1897-1900, plus letters page, (1988).					
	BN	Becker et al., "Low-Energy Cross Sections for <sup>11</sup> B(p,2α)*," Atomic Nuclei 327, pp. 341-355, (1987).					
	BO	Rosenbluth et al., "Fokker-Planck Equation for an Inverse-Square Force," The Physical Review, Vol. 107, No. 1, pp. 1-6, Jul. 1957.					
	BP	Feldbacher et al., "Basic Cross Section Data for Aneutronic Reactor," Nucl. Inst. and Methods in Phys. Res., A271, pp. 55-64, (1988).					
	BQ	Naitou et al., "Kinetic Effects on the Connective Plasma Diffusion and the Heat Transport," J. of the Phys. Soc. of Jap., Vol. 46, No. 1, pp. 258-264, (1979).					
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<b>OTHER DOCUMENTS</b> (Including Author, Title, Date, Pertinent Pages, etc.)			
BR	Zweben et al., "Radial Diffusion Coefficient for Counter-Passing MeV Ions in the TFTR Tokamak," Nuclear Fusion, Vol. 13, No. 12, pp. 2219-2245, (1991).		
BS	Song et al., "Electron trapping and acceleration in a modified elongated betatron," Phys. Fluids B, Vol. 4, No. 11, pp. 3771-3780, Nov. 1992.		
BT	Wong et al., "Stability of annular equilibrium of energetic large orbit ion beam," Phys. Fluids B., Vol. 3, No. 11, pp. 2973-2966, Nov. 1991.		
BU	Davis et al., "Generation of Field-Reversing E Layers with Millisecond Lifetimes," Phys. Review Let., Vol. 37, No. 9, pp. 542-545, August 30, 1976.		
BV	Phelps, et al., "Observations of the stable equilibrium and classical diffusion of field reversing relativistic electron coils," The Phys. of Fluids, Vol. 17, No. 12, pp. 2226-2235, Dec. 1974.		
BW	Weaver et al., "Exotic CTR Fuels: Non-Thermal Effects and Laser Fusion Applications," Paper presented at 1973 Annual Meeting of the Amer. Phys. Soc. Div. of Plasma Physics, Philadelphia, PA, Oct. 30, 1973.		
BX	Weaver et al., "Fusion Microexplosions, Exotic Fusion Fuels, Direct conversion: Advanced Technology Options for CTR," UCID-16309, Apr. 27, 1973.		
BY	Weaver et al., "Exotic CTR Fuels for Direct Conversion-Utilizing Fusion Reactors," UCID-16230, March 16, 1973.		
BZ	Heidbrink, W.W., "Measurements of classical deceleration of beam ions in the DIII-D tokamak," Phys. Fluids B, Vol. 2, No. 1, pp. 4-5, Jan. 1990.		
CA	Cox, et al., Fusion Technology, Vol. 18, pp. 325 - 339		
CB	Rostoker et al., "Colliding Beam Fusion Reactor," Science, Vol. 278, pp. 1419-1422, Nov. 1997.		
CC	Rostoker et al., "Large Orbit Confinement for Aneutronic Systems," Non-Linear and Relativistic Effects in Plasmas, Ed. V. Stefan, Am. Inst. of Phys., New York, pp. 116-135, (1992).		
CD	Rostoker et al., "Magnetic Fusion with High Energy Self-Colliding Ion Beams," Phys. Rev. Let., Vol. 27, No. 12, pp. 1818-1821 (1993).		
CE	Nevins, et al. "Feasibility of a Colliding Beam Fusion Reactor," online available: <a href="http://intl.sciencemag.org/cgi/content/full/281/5375/307a">http://intl.sciencemag.org/cgi/content/full/281/5375/307a</a>		
CF	Carlson (dated Aug, 1998) "Annotated Bibliography of p-B11 Fusion," online available: <a href="http://www.ipp.mpg.de/~Arthur.carlson/p-B11-bib.html">http://www.ipp.mpg.de/~Arthur.carlson/p-B11-bib.html</a>		
CG	Carlson, (dated 11/28/1997) "Re: Boron/Proton Colliding Beam Fusion Reactor?" online available: <a href="http://groups.google.com/groups?q=rostok...opuo.fsf%40s4awc.aug.ipp-garching.mpg.de">http://groups.google.com/groups?q=rostok...opuo.fsf%40s4awc.aug.ipp-garching.mpg.de</a>		
CH	Carlson (dated 97-01-04) "Fundamental Limitation on Plasma Fusion Systems no in Thermodynamic Equilibrium," Online available: <a href="http://www.ipp.mpg.de/~Arthur.Carlson/rider.html">http://www.ipp.mpg.de/~Arthur.Carlson/rider.html</a>		
CI	Carlson (dated 2000/09/14), "Re: Lithium Fission - Why Not?", online available: <a href="http://groups.google.com/groups?q=rostok...v35u.fsf%40suawc.aug.ipp-garching.mpg.de">http://groups.google.com/groups?q=rostok...v35u.fsf%40suawc.aug.ipp-garching.mpg.de</a>		
CJ	Carlson (dated 2000/05/10), "Home Page of Dr. A. Carlson" online available: <a href="http://www.rzg.mpg.de/~awc/home.html">http://www.rzg.mpg.de/~awc/home.html</a>		
CK	W.W. Heidbrink, et al. "The Behaviour of Fast Ions in Tokamak Experiments," Nuclear Fusion, Vol. 34, No. 4 (1994)		
CL	L.C. Steinhauer, et al. "FRC 2001: A White Paper on FRC Development in the Next Five Years," Fusion Technology Vol. 30, September 1996		
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